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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 508,340	05 25 2000	FABRICE DEVAUX	32433	5195

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EXAMINER

SANGHAVI, HEMANG

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 11/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/508,340

Applicant(s)

DEVAUX ET AL.

Examiner

Hemang Sanghavi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 22 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

In response to the applicant's amendment received on September 5, 2002, all requested changes to the claims have been entered.

Applicant's arguments with respect to claims 1 and 7-11 have been considered but are deemed to be moot in view of the new grounds of rejections. The previously applied art rejections of claims 1 and 7-11 and the indicated allowability of claims 2 and 6 are withdrawn. The following rejections are now applied as the result of further search. This action is **not** made final.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1-6, applicant is claiming an interferometric coupler, however the claim fails to recite any coupling arrangement that constitutes the interferometric coupler. The claimed amplifying part and transparent part cannot by themselves constitute the interferometric coupler. The omission of essential elements renders the claim indefinite as to the scope of the claims.

Claims 7-15 are necessarily rejected, since these claims directly or indirectly depend upon the rejected base claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 6, 7/1, 7/2, 7/6, 8-11, 12/1, 12/2, 12/6, 12/8-12/11, 13/1, 13/2, 13/6, 13/8-13/11, 14/1, 14/2, 14/6, 14/8-14/11, 15/1, 15/2, 15/6, and 15/8-15/11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paoli (US 5,228,049).

Paoli discloses a semiconductor laser (Fig. 7) including a first amplifying part (Contact 2) and a second part (62) to guide radiation previously amplified by the first part. The first and second parts are separated by a curved interface and disposed

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perpendicular to a path of an incident beam (incident beam from the laser) and an output beam.

Paoli fails to state that the second part (lens) is a transparent part.

It is well known in the art that the lenses are made from a transparent material such that the laser beams can pass through the lens. The lens material is at least transparent to the laser beams and guides the beams depending upon the properties of the lens.

From available well-known knowledge in the art, the ordinary artisan would have found it at the time of the invention to realize that the lens material of the Paoli is a transparent to the laser beam generated by the laser and guides the laser beam to focal point.

In lines 60-68 of column 3, Paoli discusses to use GaAs/GaAlAs based materials for the laser structure and also discusses well known multiple quantum well structure for the laser.

Paoli fails to disclose the use of InP and InGaAsP materials for the laser.

However use of such materials is well known in the art. The GaAs/GaAlAs based materials and InP/InGaAsP based materials are substituted in the lasers for providing desired laser properties and applications.

From available well known techniques, the ordinary artisan would have found it to be obvious at the time of the invention to provide the InP/InGaAsP based materials for the laser of Paoli for the purpose providing desired applications to the laser in optical communication systems.

Paoli, as discussed above, fails to explicitly state that a single mode guide is placed at an output of the second part. However, it is well known in the art to couple a single mode waveguide fiber to a semiconductor laser as disclosed in the Paoli reference. Such single mode fiber is used for long distance communication systems.

Thus, it would have been certainly obvious to one of ordinary skilled artisan to couple a place a single mode fiber at an output end of the laser for the purpose of coupling laser radiation to an optical fiber and advantageously using the laser of Paoli in optical communication systems.

Allowable Subject Matter

Claims 3-6 and 7/3-7/5, 12/3-12/5, 13/3-13/5, 14/3-14/5 and 15/3-15/5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to disclose or suggest the claimed interface between the first and second parts.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bischel et al discloses a coupling of amplifying part to a laser.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hemang Sanghavi whose telephone number is 703-

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305-3484. The examiner can normally be reached on Monday-Thursday (8:30 AM-6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 703-308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Hemang Sanghavi
Primary Examiner
Art Unit 2874

HS